

U.S. Patent Application Serial No. 10/084,369
Amendment filed September 13, 2005
Reply to OA dated June 13, 2005

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 Claim 1 (currently amended): A motion image decoding apparatus for decoding compressed
2 image data obtained through timebase predictive coding effected to compress a motion image,
3 comprising:
4 an image reproduction portion receiving said compressed image data to generate reproduced
5 image data;
6 an orthogonal transform and compression portion receiving an output from said image
7 reproduction portion to effect orthogonal transform for each predetermined data transform block for
8 data compression, said orthogonal transform and compression portion switching for each said
9 predetermined data transform block a rounding system applied after said orthogonal transform, said
10 switching of the rounding system corresponding to alternating between a first rounding process
11 including adding a first value to or subtracting the first value from a numeral value and dividing
12 result by a second value, and a second rounding process including adding a third value to or
13 subtracting the third value from the numeral value and dividing result by the second value, the third
14 value being equal to two times the first value operation biased to increase a numeral value in

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15 ~~absolute value and a second rounding operation biased to decrease the numeral value in absolute~~
16 ~~value; and~~

17 a storage receiving an output from said orthogonal transform and compression portion for
18 storing therein reference image data for said predictive coding.

1 Claim 2 (original): The apparatus according to claim 1, wherein said orthogonal transform
2 and compression portion effects Hadamard transform as said orthogonal transform.

1 Claim 3 (original): The apparatus according to claim 1, wherein said orthogonal transform
2 and compression portion switches for each said predetermined data transform block a level of a
3 threshold value for a rounding operation effected after said orthogonal transform.

1 Claim 4 (original): The apparatus according to claim 3, wherein said orthogonal transform
2 and compression portion effects Hadamard transform as said orthogonal transform.

1 Claim 5 (original): The apparatus according to claim 1, wherein:
2 said compressed image data includes a luminance signal and a color difference signal; and
3 for said luminance signal said orthogonal transform and compression portion switches for
4 each said predetermined data transform block said rounding system applied after said orthogonal
5 transform, and for said color difference signal for a DC component said orthogonal transform and

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6 compression portion switches for each said predetermined data transform block said rounding system
7 applied after said orthogonal transform and for an AC component effects truncation for any said
8 predetermined data transform block.

1 Claim 6 (original): The apparatus according to claim 5, wherein said orthogonal compression
2 and transform portion effects Hadamard transform as said orthogonal transform.

1 Claim 7 (currently amended): A method of decoding a motion image, comprising the steps
2 of:

3 generating first reproduced image data based on source image data reproduced from a signal
4 of compressed image data obtained through timebase predictive coding in compression of a motion
5 image, or generating said first reproduced image data based on the reproduced source image data and
6 reference image data;

7 switching a rounding system after orthogonal transform for each predetermined data
8 transform block of said first reproduced image data, effecting orthogonal transform coding, and
9 generating second reproduced image data having an amount of data smaller bitwise than said first
10 reproduced image data, said switching of the rounding system corresponding to alternating between
11 a first rounding process including adding a first value to or subtracting the first value from a numeral
12 value and dividing result by a second value, and a second rounding process including adding a third
13 value to or subtracting the third value from the numeral value and dividing result by the second

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14 value, the third value being equal to two times the first value ~~operation biased to increase a numeral~~
15 ~~value in absolute value and a second rounding operation biased to decrease the numeral value in~~
16 ~~absolute value;~~

17 storing to a reference image memory said second reproduced image data required to generate
18 said reference image data; and

19 generating from said second reproduced image data stored in said reference image memory
20 said reference image data corresponding to said first reproduced image data.

1 Claim 8 (original): The method according to claim 7, wherein in the step of switching,
2 Hadamard transform is effected as said orthogonal transform.

1 Claim 9 (original): The method according to claim 7, wherein in the step of switching, for
2 each said predetermined data transform block after said orthogonal transform said rounding has a
3 threshold value switched in level.

1 Claim 10 (original): The method according to claim 9, wherein in the step of switching,
2 Hadamard transform is effected as said orthogonal transform.

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